

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1 (Currently Amended). An isolated nucleic acid molecule encoding a bacterial autoinducer inactivation protein selected from the group consisting of:

- a) a nucleic acid having the sequence of ~~the coding portion of SEQ ID NO: 1~~ the bases that encode SEQ ID NO: 2;
- b) a nucleic acid encoding the amino acid sequence of SEQ ID NO:2; and
- c) a nucleic acid that hybridizes to a) or b) above, wherein a positive hybridization signal is observed after washing with 1 X SSC and 0.1% SDS at 55°C for one hour wherein said nucleic acid of (c) encodes a bacterial autoinducer inactivation protein.

Claim 2 (Canceled).

Claim 3 (Previously Presented). The nucleic acid molecule of claim 1, which further comprises a signal peptide coding region of any sequence.

Claim 4 (Previously Presented). An expression vector which comprises the nucleic acid molecule of claim 1, wherein the expression vector propagates in a procaryotic or eucaryotic cell.

Claim 5 (Original). A cell of a procaryote or eucaryote transformed or transfected with the expression vector of claim 4.

Claim 6 (Canceled).

Claim 7 (Currently Amended). A method for increasing disease resistance in a plant or animal, which method comprises introducing into a cell of such plant or animal a nucleic acid encoding a bacterial autoinducer inactivation protein selected from the group consisting of:

- a) a nucleic acid having the sequence of ~~the coding portion of SEQ ID NO:1~~ the bases that encode SEQ ID NO: 2 and;
- b) a nucleic acid encoding the amino acid sequence of SEQ ID NO:2.

Claim 8 (Canceled).

Claim 9 (Previously Presented). The method of claim 7, wherein the nucleic acid further comprises a signal peptide coding region of any sequence.

Claim 10 (Previously Presented). The method of claim 7, wherein the nucleic acid further comprises a membrane attachment domain-coding region of any source.

Claim 11 (Original). The method of claim 7, wherein the plant is susceptible to bacterial soft rot disease.

Claim 12 (Original). The method of claim 11, wherein the plant is selected from the group consisting of potato, eggplant, Chinese cabbage, carrot and celery.

Claim 13 (Original). The method of claim 7, wherein the plant is susceptible to a bacterial disease in which the expression of a virulence gene is regulated by an N-acyl homoserine lactone autoinducer.

Claims 14-18 (Canceled).

Claim 19 (Currently Amended). A method of isolating the nucleic acid of claim 1, which comprises the steps of:

- a) preparing a gene bank from Bacillus sp. bacterial isolates 240BJ from plant and soil samples that contains a nucleic acid sequence coding for a protein with autoinducer inactivation activity in a suitable host organism;
- b) screening the clones of the gene bank with a probe comprising a nucleic acid as defined in claim 1; and
- c) isolating the clones which contain a nucleic acid coding for a protein with autoinducer inactivation activity.

Claim 20 (Original). A process as claimed in claim 19, wherein *E. coli* is used as host organism.

Claim 21 (Original). A process as claimed in claim 19, wherein the steps of preparing a gene bank, screening the clones, and isolating the clones are performed in an *E. coli* strain that does not inactivate the autoinducer.

Claims 22-25 (Canceled).

Claim 26 (New) A method of reducing bacterial autoinducer activity in a plant or animal, which method comprises introducing into a cell of such plant or animal a nucleic acid encoding a bacterial autoinducer inactivation protein of claim 1.